UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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OFFICE OF
ENVIRONMENTAL
CLEANUP

February 14, 2018

Kris McCaig
Project Manager
Teck American Incorporated
501 North Riverpoint Boulevard, Suite 300
Spokane, Washington 99202

VIA ELECTRONIC MAIL ONLY

Dear Ms. McCaig,

EPA is in receipt of your February 13, 2018 letter describing the concepts for an alternate sediment field program to be conducted in the Upper Reach Operable Unit (OU) in 2018 and 2019. The alternate program was suggested as a means for resolving the current informal dispute raised by Teck American Incorporated (TAI) on January 23, 2018 regarding the Level of Effort (LOE) for Nature and Extent of Sediment Contamination in Upper Reach Operable Unit issued by EPA in January 2018.

EPA is encouraged by the guiding principles and approaches suggested by Teck American Incorporated (TAI) in its February 13th letter. After considering TAI's proposal, EPA agrees to modify the requirements of the LOE to include the work described below:

- Bed Mapping (Part 1) – The objective and scope of the work proposed by TAI appear to be consistent with EPA's expectations for general sediment facies mapping throughout the OU described in the LOE. TAI will review the bathymetry information to be released by the Confederated Tribes of the Colville Reservation (CCT) and other existing data to identify data gaps. TAI will identify and plan the work needed to fill the data gaps. To facilitate timely analysis, TAI may want to consider working directly with data gathered by the CCT rather than waiting for finalized maps; or consider undertaking a separate, more complete, sediment facies mapping effort. Regardless of the data source, the final mapping effort must characterize river bed sediment and bedrock in the Upper Reach OU by mapping surficial riverbed sediment facies (bedrock, cobble-boulder, gravel, embedded gravel, sand, silt, and muds) based on high-resolution (1-meter grid spacing) multibeam echo-sounders (MBES) bathymetry with co-registered and calibrated backscatter information. The work must include a quantitative accuracy assessment of the facies classification results using both grain-size analysis of discrete sediment samples and automated image analysis of high resolution videography obtained along multiple cross-river transects. EPA recommends a cross sectional verification transect rate of about 1.5 per mile, with at least 5 high resolution video images per transect and 1 discrete sediment sample for grain size analysis per transect.
- Sediment and Pore Water Sampling (Part 2) – The objectives and scope of the work proposed by TAI are different from what is described in the LOE. EPA agrees to the conduct of this work by TAI, and recognizes that the proposed work will be useful in understanding conditions in the Upper Reach OU, and is necessary to complete the baseline ecological risk assessment (BERA).
    - TAI proposed focused characterization efforts at Deadman's Eddy and Northport. EPA agrees to modify the LOE to include Deadman's Eddy and Northport as locations for characterization sampling, but also requires focused characterization at the border, China Bend, and the historical river channel just upstream of Marcus (total of 5 study areas). EPA will work with TAI to better define the boundaries of each study area prior to finalization of the sampling quality assurance project plan (QAPP). In addition, if TAI chooses to use samples from reference locations, each

reference area must be characterized in a similar manner to each of the Upper Reach OU study areas. Also note that the sediment characteristics of the reference areas need to closely match those of the study areas.

- TAI proposed higher-resolution nature and extent samples in shallow sediment, but did not describe the number of samples to be collected. EPA will agree to defer details, such as the number of samples to be collected, to the QAPP, but requires the number of samples be sufficient to statistically evaluate sediment variability within each feature and any reference areas (20 to 30 samples per area).
- TAI proposed use of toxicity identification evaluation (TIE) studies to reduce uncertainties. Such studies were described in the BERA Work Plan and EPA agrees to include these studies in the LOE. EPA will work with TAI to develop the TIE program, but EPA requires that multiple samples from each study area be included (although EPA assumes this will be a subset of the surficial samples) and that samples from any reference areas also be included in the TIE. The TIE must include evaluation of toxicity due to metals and organics.
- TAI proposed in-situ pore water sampling and analysis to reduce uncertainties. EPA agrees to include this work in the LOE. Pore water samples must be collected throughout each of the five study areas. Sulfide must be included in the list of target analytes for pore water. EPA also cautions that the trident probe may not be useful in the swift water environment of the OU.
- TAI proposed biological surveys of aquatic invertebrate community at each study area. EPA agrees to include this work in the LOE, provided that:
  - Study design must be rigorous enough to yield unambiguous results (including number of stations, level of replication, taxonomic resolution, and reference site selection.
  - Reference sites must be fully characterized for chemical, physical, and toxicity characteristics.

- Schedule – EPA believes the preliminary data analysis, planning documents, fieldwork, and laboratory analyses outlined in the TAI proposal (and modified as described above), can be completed in a calendar year. EPA is committed to providing timely review and approval of planning documents and data summary reports, and efficiently facilitating comments by the Participating Parties.

EPA looks forward to working with TAI to complete characterization of the Upper Reach OU. Please contact me at (206)553-2589 if you have questions or concerns.

Sincerely,

Kathryn S. Cerise

Kathryn Cerise
EPA Remedial Project Manager

cc: Dave Einan, EPA
Cami Grandinetti, EPA
Elizabeth McKenna, EPA
Christian Baxter, Teck